

# Pilot program aims to improve traffic flow, safety

August 20 2015, by Richard Cairney

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Civil engineering professor Tony Qiu, director of the Centre for Smart Transportation, watches traffic on the Whitemud Freeway. Qiu's research team is working with the City of Edmonton to solve traffic congestion and safety issues on the freeway.

The City of Edmonton is piloting new traffic technology to help drivers

get where they need to faster, easier and more safely, with the help of the University of Alberta's Centre for Smart Transportation.

The city is testing an Advisory Driving Speed system on Whitemud Drive West between 111 Street and 159 Street. Roadway signage informs drivers of the recommended speed they should travel to avoid [traffic jams](#) and sudden stops, optimizing travel time. The pilot project will last for four weeks.

"This is an exciting opportunity for our research group to work with the city and tackle the problem of [traffic congestion](#) and improving public safety," said civil engineering professor Tony Qiu, director of the centre in the Department of Civil and Environmental Engineering. "Other cities have successfully installed advisory speed signs to manage [congestion](#) and reduce stop-and-go traffic, and we hope to achieve these benefits in Edmonton as well."

Qiu says planning for the [pilot project](#) began the week he arrived at the U of A six years ago. He says he found a group of like-minded individuals when he met with city transportation officials.

Similar technology has reduced collisions and congestion in France, Sweden and the United States. Once the pilot is complete, the city will review the results and evaluate the potential of using the technology as a permanent solution to traffic issues.

"The recommended speed will change according to issues such as heavy volume, construction, collisions and weather conditions," said Wai Cheung, technical specialist in advanced [traffic](#) analysis with the city's transportation operations. "If drivers match the recommended speed, even if it's only 10 km/h slower, they will help reduce congestion and possibly collisions."

The recommended driving speed is calculated using vehicle volume and speed data, gathered by sensors buried under the roadway and ramps. The data are processed through a complex algorithm developed by the centre. The calculation for recommended speed is then programmed and posted on digital signs controlled from the city's Traffic Management Centre.

Whitemud Drive was chosen for the pilot because of congestion issues during peak periods. Typically, congestion results from a single vehicle slowing or stopping to allow another vehicle to merge, forcing following vehicles to slow or stop. The cascade of vehicles slowing or stopping causes heavy congestion and sometimes collisions.

Between 2010 and 2014, there were 334 collisions on this section of Whitemud Drive involving 677 vehicles and 44 injuries. The legal speed limit is 80 km/h.

Provided by University of Alberta

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